ASHLAND COLLEGE
MASTER OF EDUCATION
ORAL EXAMINATION OF PRACTICUM

CANDIDATE: Betty J. Diemer   DATE: June 22, 1987

PRACTICUM TOPIC: Computer Skill Development in Keyboarding

Through the Use of Atariwriter

at the Second Grade Level, Eastview Elementary

(✔) PASS

( ) FAIL

COMMENT:

Signature of Practicum Committee Chairman: _James E. Lifer (Ph.D)_

Signature of Practicum Committee Members: _Lee Russell_

Computer Skill Development in Keyboarding
Through the Use of Atariwriter
at the Second Grade Level,
Eastview Elementary

A Research Practicum Report
Presented to
The Graduate Education Faculty of Ashland College

As Partial fulfillment
of the Requirements for the Degree
Master of Education

Betty J. Diemer
June 12,1987

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Dedication

This practicum is being dedicated to my family, whose support was invaluable. My husband Mike, son Mike Gene and daughter Lisa encouraged my efforts and took over many household duties in order to free some time for me to write this practicum.

Acknowledgments

I would like to acknowledge the students who participated in this project. Without their enthusiasm and cooperation this project could have ended much differently.

The teachers with whom I work, were supportive during the entire project. Their interest in the project led me to believe this project was indeed valuable.

To the students, my fellow teachers, and all who gave assistance during this project, I extend my sincerest thank you.

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ABSTRACT

Keyboarding skills and terminology was taught
to a group of twenty-four second grade students.
The students' reading and math abilities were
varied. The abilities ranged from Learning
Disabilities to that of early third year students.

The students were taught the names of the
various components of the computer system and a
brief description of the function of each
component.

The students were taught the proper home row
position and finger reaches for the alpha-numeric
keys. After instruction and practice sessions, the
students typed a creative writing story using the
AtariWriter and Atari 800XL computers. The editing
and loading/saving skills were taught as an extra
exercise and were not a part of the
practicum.

The students were able to use proper finger
reach techniques and use these techniques to
touch-type a short story. The students were able
to use the correct terminology when discussing the
computer components.

Students expressed a desire to learn more
about using the word processor and were proud of
the booklets they were able to produce with the
word processor.

CHAPTER I

Needs and Mission

The Madison Local Schools have a Computer Education Program which commits the district "to be flexible and current with computer education trends" (Madison Local Schools Computer Curriculum Guide, 1986). One AtariWriter cartridge for each computer presently in the elementary classrooms was purchased for use in teaching keyboarding. The question arose as to what age students should be taught keyboarding. The concerns centered around three areas: dexterity, hand size, and eye-hand coordination.

Being familiar with the AtariWriter, the author volunteered to teach a pilot program in keyboarding. If successful, the older elementary students should be capable of developing keyboarding skills.

The proposal for the project was approved by the Madison Board of Education.

I. Statement of Purpose:

The purpose of the project developed from the Needs and Mission statements and was designed to

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discover whether second grade students can be taught keyboarding skills using a word processor and computer.

II. Setting:

The author conducted a pilot keyboarding and word processing program in Eastview Elementary school. This school is one of five elementary schools in the Madison Local School District. The building is twenty years old and in excellent condition.

Eastview has a suburban population. The School has an enrollment of approximately six hundred students. Eastview students come from varied socioeconomic backgrounds. Some students live in middle to upper middle class housing, while others live in minimal housing and qualify for free or reduced lunches.

The keyboarding and word processing pilot program utilized two Atari computers, two Atari cassette recorders, one Atari disk drive, two AtariWriter cartridges, two monitors, and one Star Micronics printer. This equipment was in the classroom for six weeks approximately four hours a day.

III. Subjects:

The writer worked with 25 hetrogeneously grouped second grade students. Seven of the students were reading below second grade level, four were in the Learning Disability resource room for all language arts areas, seven were reading on second grade level, and seven were reading above second grade level. The students in the resource room received limited training because they were out of the room most of the day.

III. Objectives:

The objectives for the pilot keyboarding project follow:

1. Pupils in the author's second grade class, will develop an understanding of proper terminology and care of computer hardware (computer, monitor, cassette recorder, disk drive and printer) and software (AtariWriter cartridges, cassette tapes, and disk) used in this project. This objective was meet in the first two weeks of the winter quarter.

2. The students will develop proper keyboarding skills needed to "touch type"

(typing without visually searching the
keyboard for the keys needed) a short
document, using the AtariWriter word
processor. This objective will be
developed but not necessarily mastered with
a high degree of speed or accuracy.

   DESIGN, TIMELINE, EVALUATION AND DEFINITIONS

IV.Design

   The design of this paper was addressed in the
introduction of Chapter I. For this practium
paper, the writer designed the following timeline:

V. Timeline

Table I

Practicum Timeline

May 1, 1986	1.	Board of Education approval obtained.
May 15, 1986	2.	Equipment requested.
May 25, 1986	3.	All equipment except printer approved.

| June 9, 1986 | 1. | Began to collect articles on keyboard projects |

		already tried.
	2.	Advisor approved the project.
June 25, 1986	3.	Had diagram of the Atari keyboard enlarged for student use.

July 8, 1986	1.	Continue to research for articles concerning keyboarding.
July 12, 1986	2.	Formulated ideas into objectives which might be used in the project.
July 20, 1986	3.	Classroom floor plan including computer area as well as other group areas

November 4, 1986	1.	Write proposal objectives and needs and mission.
November 11, 1986	2.	Begin writing timetable and evaluation for proposal.
November 18, 1986	3.	Complete Timetable and evaluation.

November 18, 1986	4.	Meet with advisor for selecting advisors.

December 1986	1.	Produce 25 tagboard Atari keyboards.
December 1986	2.	Produce LARGE (4' x 6') keyboard for instruction.
December 20,1986	3.	Complete the proposal.

January 1987	1.	Instruct the group as to the correct finger placement on home row.
January 1987	2.	Instruct the group as to the correct finger placement for top and bottom alpha rows.
January 1987	3.	Set the equipment up and give instructions as to how to use and handle both the hardware and software.
January 1987	4.	Assign computer time and partners for each student.
January 1987	5.	Students begin use of computer to practice touch

typing.

February 1987	1.	Practice
February 1987	2.	Instruction on AtariWriter special features (center etc.)

March 1987	1.	The students type and print one story each.
March 1987	2.	Compile student stories into booklets.
March 1987	3.	Students fill out evaluation forms.

May 15, 1987	1.	Complete writing of the Practicum.

VI. Evaluation

Objective One Evaluation:

At the end of this project, the students will be able to locate and name the various pieces of hardware and software used in this project.

Objective Two Evaluation:

This project will produce student typed

documents using the Atari computers and AtariWriter word processors.

Student Evaluation Form:

A student evaluation sheet will be filled out by each participant. This evaluation will be given to determine attitude toward the project as well as skills gained through this project.

VII. Definitions:

Cartridge	A device upon which a program is stored.
Cassette	A magnetic tape used to record signals from the program recorder.
Computer	The system inside the case which processes and manipulates data.
Disk	Refers to a floppy disk, a 5 1/4 inch magnetic disk used to store data and programs.
Disk Drive	A device that rotates magnetic disk to retrieve or store data.
Key	A rectangular shaped

	button upon which is printed a letter, numeral, word, or symbol.
Keyboard	The section of the computer case where the keys are found. Used to input data.
Monitor	The screen which aides in communicating with the computer by displaying data.
Power Supply	A device with two cords attached. One connects to the computer, recorder, or disk drive and the other to the outlet. Supplies power to the computer, recorder, or disk drive.
Printer	The device which connects to the recorder or disk drive and prints out data.
Program Recorder	A special tape recording device which stores and plays back the signals

sent by the computer when
saving data.

CHAPTER II
REVIEW OF THE LITERATURE

This chapter was designed to present a summary
of the literature pertinent to this study. The
writer approached this task by dividing the chapter
into two sections:

1. Review of literature written by
   business educators working in
   higher education

2. Review of literature written by
   educators dealing with elementary
   and secondary students and which
   is pertinent to this study

In the first section the writer attempted to
determine the views of business educators who are
currently in positions of higher education. The
writer was interested in views dealing with:

(1) who should teach keyboarding skills

(2) at what age should keyboarding techniques be
taught

(3) in what sequence should keyboard instruction
progress.

The literature reviewed in the second section

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was written by educators who deal with elementary
and secondary students. The review of this
literature was an attempt to determine the
feasibility of teaching proper keyboarding
techniques to students in the elementary and
secondary levels.

The content of this chapter was based upon
position papers of various authors in the field,
descriptive literature, and descriptions of various
programs.

LITERATURE WRITTEN BY HIGHER EDUCATION PERSONNEL

Review of Literature written by Business Educators

The literature written by business educators
not currently working with secondary or elementary
students, support teaching keyboarding differently
than traditionally taught.

The literature reviewed in this section gives
merit to teaching keyboarding techniques to all
students not just those who are to be secretaries.

Hattie Blue (1986) states:

> What is currently needed in typewriting
> instruction has changed greatly over
> traditional methods in a mere five years

and is even yet in a process of dynamic change.

The author explains what has been traditionally taught is copy skills. This is a skill which is of great value to secretaries but does not meet the needs of all keyboard users. See figure 1 on the next page. Blue (1986) believes the need is still there to teach "straight copy skills", however there is a growing need to teach keyboarding for a "variety of applications" and "earlier than when it was traditionally taught". Blue (1986) presents a four stage plan for keyboarding in figure 2 (to follow) which shows the introductory level presented in the elementary schools.

The introduction of keyboarding in the elementary is supported by authors Martha Kay Hedley (1985) and Dr. Walter Sharp (1984). Both authors agree with the premise that all students should be taught keyboarding in light of increased exposure to the keyboards on micro-computers.

Figure 1. Blue's Structure of Typing Instruction

THE CHANGING STRUCTURE OF
TYPEWRITING INSTRUCTION

TRADITIONAL   CURRENT

STRAIGHT COPY SKILLS   STRAIGHT COPY SKILLS

PRODUCTION OF DOCUMENT   VARIETY OF APPLICATIONS

TOOLS: TYPEWRITERS   TOOLS: ELECTRONIC
                                      KEYBOARDS

USERS: SECRETARIES   USERS:???????

From Blue, Hattie (Spring 1986).

Some Implications for Typewriting/Keyboarding

Instruction. Business Exchange.

Figure 2.　Blue's Stages of Instruction

STAGES OF KEYBOARDING INSTRUCTION

KEYBOARD

PRESENTATION   Basic Introduction Elementary

TECHNIQUES   School

STROKING   Review

SKILLS   Refine   Middle

                 Reinforce   School

DOCUMENT

PREPARATION

                 Skill Development   High School

PRODUCTION

PROFICIENCY

From Blue, Hattie (Spring 1986).

    Some Implications for Typewriting/

    Keyboarding Instruction. Business Exchange.

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Both Hedley(1985) and Sharp (1984) believe
that young children should be given suitable
instruction in technique and materials used for the
instruction.

It is the consensus of Blue (1986), Hedley
(1985) and Sharp (1984) that the business teacher
is the most logical and preferable choice to teach
keyboarding at any level. If this is not possible
the next best approach is to have the business
teacher plan the curriculum, teach the teachers who
will be instructing the students, and evaluate and
modify the plan.

Hedley (1985) states:

The writer believes that touch
keyboarding should be taught prior to
the students extensive use of the
microcomputers. ...students will
develop the "hunt and peck" method of
striking keys if left to his or her own
devices.

Blue (1986), Hedley (1985), and Sharp (1984)
express concern about the bad keyboarding habits

children develop when not taught proper keyboarding techniques. Hedley (1985) likens the difficulty of breaking those bad habits to "trying to change a golf swing after having developed one's own style".

Hedley (1985) offers eight recommendations to use when deciding when keyboarding should be taught. The eight recommendations are as follows:

1. Offer keyboarding as soon as the child can read and can recognize numbers and letters

2. Offer touch typing prior to.... extensive use of microcomputers-- possibly latter part of third grade

3. Use microcomputers to teach keyboarding......or electric typewriters

4. Select appropriate keyboarding tables and chairs......

5. Select appropriate keyboard instruction software/materials...

6. Involve the business education teacher....

7. Offer 20-50 minute practice

sessions

at least three times a week

8.   Help the child understand that the

keyboard will be a communication

tool throughout life

Dr. Sharp (1984) discussed reasons for

teaching keyboarding "from kindergarten through

adult education". Sharp states that the

"microcomputer has caused the largest revolution in

education since the invention of printing and has

invaded the lives of everyone in the developed

world.....". Sharp cites John Naisbit (1982) has

estimated "75 percent of all jobs by 1985" would

involve computers. Sharp sees this change in need

for keyboarding as a "second chance" for business

teachers. Because of the business teacher's

expertise in teaching keyboarding, Sharp states

business teachers should "extend there expertise

beyond the business education classroom to all

classrooms". Sharp cites "journalism and its 'hunt

and peck' artists" as a good example of what could

happen if non-business people are not given

keyboarding instruction.

Sharp (1984) argues that if Seymore Papert

(1980) is correct in his assessment of childrens ability to learn many concepts in math and science while using Logo, that maybe the business educator should ask manufacturers for miniature keyboards and begin teaching children as young as possible proper keyboarding.

Sharp believes instruction to children who have had prolonged exposure to the keyboard should be designed to overcome the "unorthodox method of typing" which the students have developed.

Sharp states "the future makes keyboarding as basic as reading, writing and arithmetic".

Roslyn Benamy (1984) defines the "casual users" of keyboards as:

> ....people of all ages using personal
> computers in schools, at home, and in
> business. Many of them "hunt and peck"
> at the keyboard; some of them have
> taught themselves how to keyboard; and
> others have been fortunate enough to
> have learned proper keystroking
> techniques in a typing classroom. An
> increasingly large number will be
> interacting with microcomputer software

programs.... . These are casual

keyboard users.

Benamy (1984) describes a course taught at
Rockland Community College, for the casual keyboard
users. The course emphasized exact entry rather
than speed. Most of the persons taking this course
wished to enter data accurately in one of a number
of areas which include: programming, data
processing, pre-engineering, or nursing. Benamy
further states:

> There are many students wanting to be
> helped by business educators. We can
> do the job well if we realize that
> there is a new and important keyboard
> user to be trained--the casual
> keyboarder.

One piece of literature reviewed was not
written by a person working in the educational
field. The author, Dr. Jerry W. Robinson (1985),
is the Senior Editor of South-Western Publishing
Co..

Dr. Robinson states:

> Keyboarding is a cumulative skill: what
> can be learned or perfected at one

level is heavily dependent upon what
has been learned or refined at a prior
level. ...that first exposure should
lay the proper foundation.   .....This
foundation includes

1.   use of all eight fingers and one
     thumb for spacing

2.   correct pairing of fingers to keys

3.   proper body/hand/finger position..

4.   proper direction of the fingers
     from their home row position to
     the target keys

5.   .....proper movement back to their
     home row position

6.   proper reading of letters and
     words and proper timing of finger
     motions to reproduce those letters
     and words on screen or on paper

Dr. Robinson believes that no matter "whether
exposed to computer keyboards in elementary or
junior high, students who do not receive proper
instruction" and enroll in a typewriting class,
will "encounter severe unlearning and relearning
problems".

Robinson (1985) points out "that how one practices and what one practices are more important than how much one practices". If practiced incorrectly then the student is "perfecting...imperfection".

Robinson (1985) lists materials needed for learning keyboarding and states that "materials should be written at an appropriate reading level","divided into lessons or activities", "a keyboard drawing", "a reach-technique illustration", and should provide frequent review. Robinson (1985) included advertisement for the series Learning and Instruction which includes materials for typewriting.

LITERATURE DEALING WITH PROJECTS IN ELEMENTARY SCHOOLS

Review of Literature on Keyboarding Projects with Elementary Students

Mr. George S. Rhodes (1985) believes that unlike typewriting which is a separate discipline, computer literacy "will absorb keyboarding".

Rhodes believes keyboarding should be taught to everyone whether vocationally oriented or not. Rhodes states that this is important because all of us will eventually have to communicate with a

computer and since voice means of communication is
"more theory than fact" the keyboard will be used
to communicate with the computer.

Mr. Rhodes model program consists of three
steps.

1.   The Initial development

of basic touch keyboarding

skill...

2.   The mastery of word processing...

3.   The exploration of various

computer applications.......

Rhodes states that the "basic design of the
program should consist of four segments" consisting
of use of a tutorial that introduces students to
the keyboard, keyboard exercises, a basic word
processor and keypad exercises.

Rhodes believes a powerful rationale for
teaching keyboarding to the general public is that
"our society is moving into an age of intensive
computer usage in both occupational and
non-occupational settings".

George S. Rhodes (1985) states the belief that
keyboarding "is a general education offering; i.e.

for everyone". Rhodes (1985)also states that logic
demands keyboarding be taught "prior to secondary
school". Rhodes presents this line of thought
concerning the teaching of keyboarding in the
elementary:

> The data provided by numerous
> experimental studies offers conclusive
> evidence that students at the pre-high
> school levels can effectively master
> keyboarding skills... . Common
> sense prevails, keyboarding will
> generally be offered in the elementary
> curriculum with computer literacy
> instruction.

Because of the expense of microcomputers,
Rhodes believes development of electronic keyboards
modified for keyboarding instruction, will occur.
The "keyboard simulator" was described at length.
If developed and used, Rhodes states the immediate
feed back and forced correction as one major point
in the simulators favor. Another point in its
favor according to Rhodes, would be that teacher
review of typed material would be unnecessary as
the simulator would only accept perfect copy. By

requiring perfect copies, the students will be
forced to learn many things not directly termed
keyboarding. Improved spelling and format would be
two such areas, according to Rhodes (1985).

Keith Wetzel (1985) begins this article with
an observation of word processing as a means to
increase quantity and quality of written
composition. He discovered the word processing
presented a new problem. The child with no
keyboarding experience was inefficient and
frustrated with the word processor. The child
spent more time on the mechanics of entering his
story than on the creation of the story.

Wetzel (1985) discovered the children with
adequate keyboarding skills used their computer
time efficiently and concentrated on the
composition. The frustration stemming from the
lack of knowledge was lessened and allowed the
thoughts to flow more freely.

Decisions made about keyboarding as part of
the curriculum should address these questions:

1. What are you going to set as
keyboarding competency?
2. How much keyboarding is necessary

for the computer curriculum in
your school?

3. What is the least amount of time
the students need to accomplish
keyboarding competency?

4. Who should teach elementary
keyboarding?

5. What software should be used?

The information in this literature supports
the theory that computer programming, data base
construction, or word processing can begin when the
students reach at least 10 gross words per minute.
Speed and accuracy will increase as they use the
computer for tasks.

The author states that he believes keyboarding
should begin in the elementary, if students are
required to use the keyboard repeatedly in the
school curriculum. He believes elementary
keyboarding will increase the students efficiency
(in regard to computer time) and alleviate many of
the improper typing habits which develop when the
students are not taught how to keyboard.

Ms. Lynda Frankeberger (1985) addresses areas
of fundamental weakness currently found in learning

to use computers. Frankeberger (1985) believes
that lack of training in the use of the keyboard
results in two major problems. One such problem is
inefficient use of the keyboards which is
time-consuming as well as costly. The second
problem being the development of poor keyboard
habits including using the index finger for
inputting information.

Frankeberger writes of a project which took
place at University High School which involved
volunteers from fourth and fifth grade students who
gave up one-half hour after school for eight weeks
to learn keyboarding skills. The objectives for
this project were much like those mentioned
previously: correct use of home row position, even
stroking, proper stroking of the space bar, touch
typing, and practice.

Frankeberger found the students to be
enthusiastic about the project. Frankeberger stated
that plans were being made to have the students
return in ten weeks to see how well they retained
what had been taught.

Frankeberger cites the following as
conclusions about the project:

1. Any child can learn to touch type
   if his/her maturity level is at
   least that of an average fourth
   grader....

2. Male and female students do
   equally well

3. Physical size is not a major
   contributing factor to success.

Summary

The literature reviewed in this section
supports the theory that the microcomputer has had
a large impact on users of keyboards. No longer
are the primary users of keyboards the secretaries
but persons from a wide variety of professions and
indeed the "casual user". Because more people are
and will be interacting with a computer, through a
keyboard, educators need to change the way
keyboarding is taught and provide training to all
not just vocational student.

Many of the authors believe the introductory
level of keyboarding should be taught in the
elementary school. The general belief of the
authors remains that the business teacher is the
ideal person to teach keyboarding, however in many

situations this is impractical. The business
teacher should be involved in the planning of the
curriculum and instruct the persons who will be
teaching keyboarding.

The authors agree that the major objectives of
a keyboarding curriculum should emphasize home row
position, touch typing, proper stroking of the
alphanumeric keys as well as the space bar,
appropriate materials, electronic keyboards, and
practice.

The poor keyboarding habits are cited as a
major concern for any person who is exposed to the
keyboard without proper training. All the authors
agree poor keyboarding skills are very hard to
correct and should be prevented by teaching proper
keyboarding before prolonged exposure to the
keyboard.

A few authors stated the belief in teaching
students proper keyboarding as soon as they can
read and recognize letters and numbers.

On June 10, 1987 this author requested and
recieved a computer search through Ashland College.
The attempt was made to locate information

published since January of 1987. The results of
this search located two articles dealing with uses
of the wordprocessor in the elementary classroom.
No further items were located with a date of 1987
on keyboarding in the elementary. Fifteen items
were located with earlier dates. Some are
discussed in this chapter and others have been
added to the reference pages.

CHAPTER III
DESCRIPTION OF THE PRACTICUM

This chapter will include descriptions of the
setting, subjects, objectives, and details of the
planning and implementation of this project.

Setting and Subjects of the Practicum

The author conducted a pilot keyboarding and
word processing program in Eastview Elementary
School. Eastview Elementary School is one of five
elementary schools in the Madison Local School
District. The building is twenty years old and in
excellent condition.

Eastview students come from varied
socioeconomic backgrounds. Some students live in
middle to upper middle class housing, while others
live in minimal housing and qualify for free or
reduced lunches.

Eastview has a primarily suburban population.
The school has an enrollment of approximately six
hundred students. The staff includes; twenty
classroom teachers, one principal, one secretary,
two aides, two custodians, and four cooks.

The keyboarding and word processing pilot
program utilized two Atari computers, two Atari
cassette recorders, one Atari disk drive, two
AtariWriter cartridges, two monitors, and one Star
Micronics printer. This equipment has been in the
classroom since January and in use approximately
four hours a day.

The author worked with 25 second grade
students. Seven of the students are reading below
second grade level, four are in the learning
disability resource room for all language arts
areas, eight are reading on second grade level, and
six are reading above second grade level. The
students in the resource room received limited
training because they are out of the room most of
the day.

The purpose of this project was to discover
whether second grade students can be taught
keyboarding skills using a word processor and
computer. From the previously stated purpose the
following objectives were developed:

Objectives of the Practicum

Objective number one refers to the tools the

students used in this project.

Pupils in the authors second grade class, will develop an understanding of proper terminology and care of computer hardware (computer, monitor, cassette recorder,disc drive and printer) and software (the AtariWriter cartridge, cassette tapes, and disc) used in this project.

Objective number two deals with skills the students will be developing during this project.

The students will develop proper keyboarding skills needed to "touch type"(typing without visually searching the keyboard for the keys needed) a short document, using the AtariWriter word processor.

Practicum Timeline

For this research practicum paper, this writer designed the following outline:

Table I

Practicum Timeline

May 1986	1.	Board of Education approval obtained.
	2.	Equipment requested and received approval.
June 1986	1.	Enlarge a copy of the Atari computer keyboard.
	2.	Dr. Lifer approved project.
	3.	Decided upon objectives.
July 1986	1.	Develop a management plan
November 1986	1.	Use checklist to determine prior knowledge
December 1986	1.	Produce 25 tagboard keyboards

2.   Produce LARGE keyboard

January 1987   1.   Instruct use of hardware
                         and software
                    2.   Drill and assess progress
                    3.   Assign computer time
                    4.   Instruct homerow
                    5.   Practice!

February 1987   1.   Instruct alpha rows.
                    2.   Instruct numeric keys
                    3.   Instruct use of control
                         and delete back space keys
                    4.   Formal instruction ends
                    5.   Practice!
                    6.   Students type stories

March 1987   1.   Editing of Stories
                    2.   Produce hardcopies
                    3.   Students Evaluate

April 1987   1.   Compile student stories

Preparation for the Practicum

This section will describe the planning involved in preparation for this keyboarding project.

In May of 1986 the following people were contacted in order to acquire approval for implementing a pilot project for elementary keyboarding: the Curriculum Director for Madison Local Schools, the Computer Coordinator, the Principal at Eastview Elementary and the Superintendent of Madison Local Schools. Tentative approval was given immediately with the Madison Local Board of Education approval being given the third week in May.

With approval of the project obtained, a request for materials and equipment was submitted to the Computer Coordinator and the Curriculum Director. Assurance was given that the equipment would be available for use in January as requested.

Materials and equipment requested were as follows:

　　　　1.　　Two Atari 800XL computers

2. One printer and interface

3. Two cassette recorders or two
   disk drives

4. Two AtariWriter cartridges

5. Cassettes or disks

6. Two hundred fifty sheets of
   printer paper

7. twenty-seven 9"x 11" tagboard
   keyboards (see Appendix A)

8. Assorted Typing books to review

9. One adjustable table

10. 1 large powerstrip (12 outlets)

Most of the equipment was available because
the Computer Coordinator had two or three back-up
computers, recorders, and monitors for the Logo
curriculum within the district. The Computer
Coordinator also had three non-functioning Atari
600XL computer keyboards which served as practice
keyboards.

The printer was available for use with this
project with the cooperation of a third year
teacher who was teaching Logo at the time.

The classroom itself needed little in the way
of adjustments. The furniture was rearranged to

allow the computers to be located near an outlet.

The schedule needed to be adjusted to free thirty minutes a day for instruction of proper keyboarding skills. The time was gained by shortening all four reading groups by five minutes a day and shortening English and Spelling by five minutes each for a period of four weeks. The project did not pre-empt the normal academic instruction.

Before implementing this project, the author discussed the concept with a high school typing instructor. She expressed the belief that elementary students can be taught proper finger position and use of the keyboard. She believes students should be taught keyboarding if they are going to be required to use keyboards to input information on computers.

The Director of Computers in the Mansfield City School system offered several articles concerning instruction of proper keyboarding skills prior to the high school level. She offered feed-back on plans, submitted to her by the author, for the implementation of this project.

The Principal and Curriculum Director gave the

author input as to length of time during which this
project would take place. It was decided that
because of possible future implementation
through-out the district and the problems
scheduling second graders into an tight computer
schedule, that six weeks would give a good estimate
of what could be accomplished in that amount of
time.

The Advisor from Ashland College, assisted the
project through brainstorming meetings and
providing a small booklet entitled TOUCH-TYPE THE
KEYBOARD IN FOUR HOURS (Donnelly,1986). the author
used the method described in the above mentioned
booklet to instruct the finger reaches and finger
positions during the formal instruction of
keyboarding.

The secretary at the central administration
building produced the tagboard keyboards for the
students to use in daily practice and drill
sessions.

Implementation of the Practicum

Objective One:

Pupils in the authors second grade class, will develop an understanding of proper terminology and care of computer hardware and software used in this project.

A checklist was used to determine how many of the proper terms for computer hardware and software the students knew and how many knew the functions of the components of the system to be used in this project.

It was learned that the students correctly identified the computer and identified the monitor as a television. Ten of the students named the program recorder as a tape recorder. These findings indicated a need to give the students a working vocabulary and general understanding as to why each component is necessary to the system. Instruction as to proper handling procedures would be included in the general understanding of the system.

Lessons were designed to give the students a

working vocabulary concerning the components and a
general understanding of the functions of those
components follow.

LESSON ONE

Concept:

Proper terminology used when discussing
computer components and the general
purpose and functions in the computer
system.

Lecture and Demonstration Summary:

The monitor is similar to a television and
when using Atari computers, televisions may
be used as monitors. When the televisions
are used a switch box and wire are needed to
allow the television to act as a monitor.
Once connected to the computer the lever is
to be set at the computer setting. When
this has been done the television will not
receive normal television programs and will
display information being sent to the
computer or sent from the computer to the
monitor. The monitor was displayed and the
connecting procedure was demonstrated as the
explanation was given.

As the lecture continues, the
computer/keyboard was picked up. The

explanation for this component was given as follows:

The computer is actually inside the case and can not be seen from the outside. The computer is responsible for processing information. The keyboard can be seen. The keyboard is the section of the case where the keys are located. The keys look like buttons and each key has a letter, number, or symbol on it. The keyboard is used as a typewriter keyboard would be used. The keyboard as part of the computer system allows people to send information to the computer. This is the way people talk to the computer. Both the computer and the monitor use electricity as a source of energy. Without electricity, both are useless. The monitor has a cord attached to the back of it and the cord has a plug on the end which is placed into an outlet. This power strip has twelve outlets and one large cord with a plug which is

placed into a wall outlet. The monitor
is then pluged into one of the power
strip outlets. What about the
computer? How will it be plugged
into the power strip? There is no cord
attached to the computer. Introduction
of the power supply and demonstration
of the connection procedure were
completed at this time. The power
supply does just what its' name says,
supplies power to the computer. A
review of the components and the
functions of each completes this
lesson.

Review:

Review of the computer components and
functions of each which were discussed in
lesson one. The process was one where this
author pointed to a component and asked for
its' name and function until all previously
taught components had been reviewed at least
twice.

Lecture and Demonstration:

The new components to be described were the
program recorder and power supply, the
cassette, and the cartridge version of
AtariWriter. The program recorder was
likened to a tape recorder. The program
recorder records signals or sounds sent
from the computer so these signals can be
used later. The program recorder plays back
the signals which were recorded at another
time. The signals are sent back from the
program recorder to the computer. Just
as the computer needed a power supply to
supply power to the computer, so does the

program recorder. A demonstration of the
connecting of the power supply to the
program recorder as well as the connecting
of the cable from the computer to the
program recorder, was given at this time.
The cassette was shown to the students and
the cassette was explained as being useful
in the same way as a cassette for a tape
recorder. The cassette has a tape upon
which is stored the signals placed upon it
by the program recorder. A demonstration of
the insertion of the cassette into the
program recorder was then given. The
keys located on the program recorder and the
function of the keys were explained. The
cartridge version of AtariWriter was
introduced as a word processing program
which was written by someone and sold for
others to use. A program was explained as a
set of instructions someone writes to tell
the computer what to do with information it
receives. The legalities of copying someone
elses work without permission were discussed
at this time. A demonstration as to how to

insert the cartridge into the slot on the
Atari 800XL, how to turn the computer and
monitor on, and a review completed this
lesson.

LESSON THREE

Review:

This lesson was totally review/drill of the components discussed in lessons one and two and why each was important to the computer system.

Assignment:

Students were given the assignment which involved going to the computer table with a partner and practicing the naming of components and explaining the functions.

LESSON FOUR

Review:

>This was a final review before checking each students ability to name and give general function information.

Check up:

>Each child was checked to see how much he or she remembered from lessons one and two.

OBJECTIVE TWO:

The students will develop proper
keyboarding skills needed to touch
type (typing without visually searching
the keyboard for the needed keys) a
short document using the AtariWriter
word processor.

Lessons developed to teach keyboarding skills
follow.

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LESSON FIVE

Materials:

26 tagboard keyboards for student and
instructor use. One large one foot by three
foot keyboard drawn on the chalkboard for
demonstrations and student reference.
The students need school glue.

Lecture Demonstration:

Using the tagboard and large keyboard the
concept of home row was introduced.
Home row was presented as being the home for
the four fingers of each hand. The fingers
leave home to visit other keys but always
return home before making another visit.
The finger positions were demonstrated by
this author placing the correct finger on
the correct key of the large keyboard. The
students were asked to do what was being
done in the demonstration.
The students were instructed to curve the
fingers in such a way as to allow the tips
of the fingers to rest on the keys.
This author stated that because the keys on

the tagboard keyboard were not raised or
depressed, students would be unable to
feel where the keys were located. Partners
were assigned to assist with initial
location of the keys for this session and
future lessons.

Following the formal instruction on home row
position, this author instructed each
student to place a large drop of glue on
each of the eight keys introduced in this
lesson. Those keys were the a, s, d, f, :,
l, k, and j keys. The students then placed
the tagboard keyboards on the countertop
to dry.

Assignment:

Practice with assigned partner the eight
home row keys from this lesson as part of
individual/seatwork time the next morning.
Keep fingers curved and eyes up. Your
partner will tell you if you are correct or
not. Do not peek.

Each partner was to practice on the tagboard
keyboard for ten to fifteen minutes.

LESSON SIX

Keyboarding time on the two Atari computers was assigned to partners in 20 minute segments. This allowed the partners to use the operational computers at least once a week.

Review:

A review on the home row finger positions and a drill of touch typing those keys was conducted before moving on to new material.

Lecture and Drill:

The first new position learned was the correct finger position for the space bar. The thumbs were given the task of putting blank spaces between letters, numerals, and words. Use only one thumb on the space bar not both. Practice touching the space bar with the thumb and then pressing a letter key. Repeat a letter then a space for all keys already taught.

Assignment:

Practice using the space bar and letter keys alternately.

LESSON SEVEN

Concept:

Finger reaches were likened to leaving home
to visit a neighbor and then returning home.

Lecture and Drill:

For this lesson and all lessons, the
tagboard keyboard is the one used by
students. The first finger reach taught was
the f, index finger of the left hand. The
students were asked to say aloud the reaches
as they were demonstrated. The students
were asked to try the finger reaches and say
aloud the process. The process went like
this: f to r back to f, f to t and back to
f, f to g and back to f, f to b and back to
f, f to v and back to f. This process was
carried out four times as a group switching
partners after two times. The students were
asked to put a large drop of glue on the f
finger reach keys and allow the glue to dry.

Assignment:

Practice the f finger reaches and home row
with partner.

LESSON EIGHT

Review:

>   Review and group drill of the home row and f
>   finger reaches.

Lecture and Demonstration:

>   New finger reach for this lesson is the j
>   finger reaches. The j finger is the index
>   finger of the right hand.
>
>   Again the students were asked to say aloud
>   the process for the j finger reaches. The
>   process for this reach is as follows: j to u
>   and back to j, j to y and back to j, j to h
>   and back to j, j to n and back to j, j to m
>   and back to j. This procedure was repeated
>   as described in lesson seven. Students at
>   the keyboards were reminded to look at the
>   large keyboard on the chalkboard instead of
>   the one in front of them.

Assignment:

>   Practice all key and finger reaches already
>   taught.

LESSON NINE

New materials now available to students include three non-functional Atari 600XL keyboards.

Review:

All finger reaches and keys previously taught.

Lecture and Demonstration

This lesson is used solely for drill of concepts taught in previous lessons.   After drill in the patterns taught, the lesson varies the order of keys pressed to include a space between letter keys pressed.

A sample follows:

a ; s l d k f j f r f t f g f b f v j u j y j h j n j m.

Assignment:

Practice, practice, practice.

LESSON TEN

Review:

Touch typing letters and spaces named randomly.

Lecture and Drill:

Introduction of the d finger reaches. Say aloud as the keys are touched. After practicing these reaches, the author led the students to discover that they now know enough finger positions to type some pattern words such as : dad, fad, mad, sad, add, lad, mad, grab, stab, met, set, get, net, jet, car, star, jar, far, and tar.

Assignment:

Practice d finger reaches and then practice f and j reaches. If time allows practice typing some simple words as in large group.

LESSON ELEVEN

This lesson was practice and drill of all finger reaches, homerow positions, space bar, and components.

LESSON TWELVE

Review:

A brief drill of previously taught finger reaches.

Lecture and Drill:

This lesson introduced the finger reaches for s and l fingers. Students are reminded to say the steps aloud. Steps for s are as follows: s to w back to s, s to x and back to s. The steps for l are as follows: l to o and back to l, l to . and back to l.

LESSON THIRTEEN

Review:

A brief drill of finger reaches.

Lecture and Demonstration:

In this lesson the reaches for a and ;
fingers were introduced and practiced.
The steps for a and ; fingers are as
follows:

a to q and back to a, a to z and back to a,
; to p and back to ;, ; to / and back to ;.
The introduction was followed by practicing
these finger reaches.

Assignment:

Practice the a and ; reaches at least four
times and then practice all the others.

LESSON FOURTEEN

Review:

A drill of all positions and reaches
previously taught. The remainder of the
time was spent with partners practicing.

LESSON FIFTEEN

Lecture and Drill:

Introduction of the shift and back space
delete keys was the emphasis of this lesson.
The shift key is to be pressed when the
letter needs to be a capital letter or when
the symbol located on the top of the key is
needed. To use the shift correctly, the key
is pressed with the a finger or the ;
finger. If the letter to be capitalized is
located on the right side of the keyboard
then use the a finger to shift. If the
letter to be capitalized is located on the
left side, then the ; finger is used to
shift. The shift key must be pressed and
held while the letter key is pressed.
Release the shift and lower case letters
may be typed as before.

Practice using the shift key with letter
keys ended this lesson.

Assignment:

Practice typing the names of friends.

LESSON SIXTEEN

Review:

    Shift and letter keys were reviewed.

Lecture and Drill:

    Use of the control arrow keys to move about
the screen was demonstrated. Following the
demonstration, the students were introduced
to the numerals. Practice of the reaches
for numerals was conducted and arrow key
functions reviewed.

Assignment:

    Practice typing using both letters and
numerals.

LESSON SEVENTEEN

Review:

This lesson was totally a review. No new material was added.

LESSONS EIGHTEEN THROUGH TWENTY-FIVE

Review:

Drill and practice of the concepts
introduced in lessons one through seventeen.

<u>Completion</u> <u>of</u> <u>the</u> <u>Practicum</u>

The culminating activity for this practicum,
involved each student and used the
AtariWriter word processor. Each student
typed a short document using the
AtariWriter. Twenty-one of the students
typed unedited creative writing stories
which the student had written and three
students, who were in the resource room for
language arts, typed something from a book.
One student was absent during the time set
aside for this activity. Appendix A
contains the stories as typed and edited by
the students.
Some of the spelling errors were not
corrected due to time constraints.
The original stories, first drafts, were
typed and then the students were taught to
edit by using the arrow keys and delete/back
space key.
Many of the stories created for this
purpose were long and the time alloted for
this section was extended by using the time

set aside for the last five lessons.

After all the stories were typed, the author
compiled the stories into booklets which
were then distributed to the students,
members of the Madison Local Board of
Education, the Curriculum Director, the
Computer Coordinator, and Principal.

Summary

This practicum was conducted at Eastview
Elementary with students in one second grade
class.

During this practicum the students
participated in activities designed to teach the
computer system components and the general function
of the components as well as the finger positions
and reaches for proper keyboarding skills.

The students used the keyboarding skills to
type a story using the AtariWriter word processor
and Atari 800XL computer. These stories were
compiled for the students by the author and made
into a booklet. Each student was given a booklet
to keep.

Check lists were used to determine prior

knowledge of the components and check lists were
used to determine gains made after instruction.

The authors observations during the practicum
were used to assess attitude of the students as
well as the degree to which the skills were being
mastered.

A student evaluation questionnaire was orally
given with response being given on paper.

CHAPTER IV

OUTCOMES OF THE PRACTICUM

This chapter contains the detailed evaluation/
documentation procedures, the author's
observations of the successes and shortcomings
according to the previously stated objectives, the
unexpected outcomes which occurred, and personal
and practicum timeline evaluations.

Evaluation/ Documentation Procedures

The following means of evaluation and
documentation were used by the author:

1. Teacher interaction and observation of
    the students as they worked.

2. Checklists of skills to be acquired by
    students.

3. A brief daily statement as to what was
    covered that day.

4. Frequent oral drills of concepts
    taught.

5. Informal observations of the students
    as they worked.

6. The student typed stories.

7. Students evaluation of the project.

The students were observed while working with assigned partners and while working alone. The observations were both formal and informal. The formal evaluations were those in which the author observed the students on a one to one or teacher to partnership setting. The informal observations were those in which the author was working with reading groups and would glance around the room to determine how well the students were working without assistance.

During informal obbservations, the author was looking for the use of the following:

(1) fingers on home row

(2) eye position and posture

(3) signs of frustration

(4) using time productively

Formal evaluations were simply sitting with the student at the computer or tagboard keyboard and observing the techniques he or she used. If incorrect methods were used reminders of the proper technique and words of encouragment were given. If correct, praise was given.

The informal observations were useful in

determining whether additional reviews or
re-teaching would be necessary.

The checklists were a means of determining
which skills had or had not been attained by the
students. Results of the checklists may be found in
graph form on the next page. This allowed the
author to draw conclusions as to how much time
would be needed to improve instruction in the
future.

The brief statement as to the days keyboarding
activities, allowed the author to document the
steps taken and the sequence in which those steps
took place within this practicum. These statements
included the date and what concepts were taught or
drilled plus comments such as: Repeat instruction
for loading and saving procedure--students seem
confused.

Frequent oral drills of the concepts taught
allowed the students one more chance to gain
information perhaps not previously understood. The
drills also allowed the author to gain an
impression as to how the class as a whole was
progressing. The drills also gave the rhythm to
the finger reaches described in Chapter III.

Checklist Results

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The student-typed stories gave the author concrete evidence that the students were able to type well enough to produce typed documents. The stories also allowed the author to check the editing skills which the students needed to correct grammar, spelling, and capital letter mistakes. The corrections were made with consideration of the students' age and ability.

The student evaluation of the project provided individual perceptions of the project. The questions were asked orally to eliminate problems with reading the questionnaire. The students responded, anonymously, by writing their opinions on sheets of paper. The results were tabulated and are presented as follows:

STUDENT EVALUATION RESULTS

Questions:

1. Did you like learning to type on the computer?
2. Do you think other second grade children should be taught keyboarding?
3. Do you think you can type a message into the computer?
4. Do you want to learn more about using the

computer keyboard?

5. What was your favorite part of learning
   keyboarding?

6. What part did you find the hardest to learn?

7. What could I do differently to help you
   learn keyboarding?

Results:

Answers #	Yes	No	Some	Absent
1	23	0	0	1
2	22	1	0	1
3	22	0	1	1
4	23	0	0	1

Answers to Questions 5 through 7:

5. typing(9) everything(5) typing stories(6)
   erase(1) working with the computer(2)

6. not looking at the keyboard(3) spelling(2)
   saving(10) nothing(5) fixing mistakes(1)

typing stories(1)   parts of computer(1)

7. I don't know (12)   go slower(1)

   help me load and save better(7)

Observations based on Practicum Objectives

OBJECTIVE ONE

> Pupils in the authors second grade class
> will develop an understanding of proper
> terminology and care of computer hardware
> (computer,monitor, program recorder, disk
> drive, and printer) and software (the
> AtariWriter cartridge, cassette tapes, and
> disk) used in this project.

The students demonstrated interest in the
lessons on computer components and the function
performed by those components. The students
responded with enthusiasium during drills on the
naming and description of the components.

The checklist used to evaluate whether the
students could properly name the components and
functions illustrates the level of mastery. The
checklist results were reported earlier in this
chapter.

The students used this terminology when
describing a problem or helping others troubleshoot
what could be wrong before interrupting the reading
groups. The students would show off the new

knowledge for anyone who entered the room. All the person need do was say tell me what this is and why you need it and the student or students would explain.

The proper care and handling of equipment allowed this project to be completed with no equipment damage or malfunctioning. Students respected the computer equipment as being valuable to them and when asked to take turns covering the equipment or keeping activities away from the computer area, the students were cooperative.

OBJECTIVE TWO

The students will develop proper keyboarding skills needed to "touch type" (typing without visually searching the keyboard for keys needed) a short document, using the AtariWriter word processor.

The students gave the demonstrations and lectures their full attention. The placement of fingers on home row positions was an exciting beginning. The students were able to place their fingers on the keys in correct positions without stretching. The students readily drilled the home row positions and requested more.

The finger reaches offered more challenge but the students were able to "reach" the keys from home row in most cases without removing other fingers from home row. The keys c, ., , , and x were the most difficult of the alpha rows. Numerals usually required the removal of some but not all the fingers in order to reach the keys with the proper fingers. The smallest of the children sometimes needed to remove some of the fingers from home row to reach the shift key. If the students needed to alter the "keep your home row position" concept they were always required to return to home row before depressing the next key.

The booklet containing stories the students typed is located in Appendix A. These stories were typed as written, mistakes and all, and then edited on the computer. These stories are the means of evaluation and documentation which was stated in Chapter I. In addition the author spot checked each student to see if he or she was using proper finger positions and reaches to perform the task.

In addition to the skills mentioned in the objectives one and two, students were instructed in saving and loading procedures. The students were

not required to memorize these procedures but it was necessary for the students to understand which procedure to use and why. A chart was displayed at all times to assist with these procedures.

Unexpected Outcomes

The author hoped the students would be enthusiastic about the project but was pleasantly surprised by the amount of excitement displayed. The activities were well received and the students practiced without being forced. They practiced on both the tagboard and non-functioning keyboards while anxiously awaiting a turn on the computers.

Creative writing took on new meaning when the students discovered they were going to type one of their own stories on the computer/word processor. These stories were to be made into a class booklet and distributed to students in the class as well as the members of the Madison Local Board of Education, the principal of Eastview School, and other people who expressed interest in this project. Compared to previously written stories, the length and quality of the stories improved.

Spelling and capital letters suddenly became more important when the students noted how many

more important when the students noted how many
times they had to edit these mistakes. Several
students made statements similar to this:

> I know how to spell many of these words but
> I did not spell them correctly when I was
> writing. I know to use capitals and
> punctuation correctly. I just didn't use
> capitals and punctuation when I wrote my
> story. I am going to be more careful the
> next time.

The students seemed to see capital and punctuation
mistakes more easily when in type than when hand
written. The students do seem more careful to use
correct spelling, capital letters and punctuation
in current writing assignments.

Evaluation of Personal and Professional Timelines

The professional timeline was appropriate for
this project. The length of time allowed for the
students to type in stories was originally based on
the typically short stories the students had been
writing. The time was expanded to allow for
several longer stories.

The personal timeline was accurate until the
author became ill for about eight days straight.

The completion of the booklets and the writing of this practicum reflects a two week delay caused by the illness. Otherwise everything seemed to be timed well.

Summary

Throughout this project, the students were enthusiastically receptive to learning about and using the computers.

The students were able to learn correct terminology when discussing computer components. Thus saving time and frustration if something did not function correctly.

The students were able to place their fingers on the keyboard in the correct positions and reach all keys except some of the numerals, shift and return keys without removing hands from home row position. If the students found it necessary to remove hands from home row, they were able to return to proper position before continuing.

The students expressed pride and excitement when viewing stories created and typed by students in the class being transferred to hard copies (printed).

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The major concern of the students was
connected with the amount of time at the real
computers. The students expressed the desire to
have more functioning computers so they could have
more turns or longer times on the computers.

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CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

During a computer committee meeting, questions and concerns were expressed in relation to teaching children of elementary age to use the keyboard correctly. Most of the committee members were concerned that without keyboard instruction the students would develop undesirable habits and would have difficulty correcting those habits later. The biggest concern dealt with the grade level or levels at which the keyboarding could be effectively taught.

In answer to the above concerns, the author volunteered to develop a pilot project for teaching keyboarding skills to second grade students.

The students were from varied ability levels. There were students from the Learning Disabilities Resource room, students who were working slightly below grade level, students who were of average ability and a few who were working slightly above second year level.

The project was implemented at Eastview

Elementary School in the Madison Local School

District. The school is primarily a suburban

school with a rural and urban mixture included.

Conclusions

The project verified that indeed second grade

children at varied ability levels can be taught to

use the computer keyboard correctly. The student

interest and efforts at this level makes this an

ideal time to introduce keyboarding skills. The

students in the Madison Local Schools do not have a

heavy exposure to computers prior to third grade so

many of the poor keyboarding habits have not had a

chance to develop. Therefore, second grade is a

good level for Madison students to be introduced to

keyboarding.

The students were able to reach the alphabetic

keys without moving the hand from home row

position. The very small students often needed to

remove the hand from home row position to reach the

return key and other specialized keys as well as

some of the numeric keys. The author believes the

proper finger reaches and positions were the most

important skills to emphasize. Providing whole

class drills of the finger reaches with each step

verbalized provided several means for the students to gain these skills. This method incorporates the visual, auditory and tactile means by which students learn. It is the authors belief that the rhythm of the spoken reaches is a vital part of teaching keyboarding to young students. If a student floundered when learning the location of the keys, the partner simply reminded him or her of the pattern and rhythm for the correct home row finger.

The students were not asked to develop speed during this project. Those students who typed a longer story for the keyboarding booklet did become more speedy than those who typed a shorter story.

The time spent teaching the students correct terminology was well spent. If a problem developed with the system the students discussed the problem with each other and then came to tell the author which part of the system they felt was the cause of the problem. If they did not know what was wrong, they could describe the problem in definite terms. This use of correct terms permitted the author to inform students how to correct the problem or to correct it in less time than would have been

necessary without appropriate terminology.

Recommendations

The author recommends the following:

1. Teach keyboarding at second grade level

2. Begin teaching keyboarding early in the year

3. Explore processes for improvement of retaining skills during summer absence from school

4. Conduct a study dealing with steady exposure to keyboarding as opposed to a block of time such as this project

5. Mandate a district wide keyboarding curriculum in the 1988-89 school year

Summary

the author believes this keyboarding project was a success. The students were able to reach the keys and learn the correct finger reaches to locate the desired keys.

The students were using correct terminology when discussing the computer system.

The students were proud of the booklet the class was able to produce due to keyboarding skills developed during this project.

This project has opened the door for further
instruction of keyboarding on the primary level in
the Madison Local Schools.

It is the hope of the author that this project
will assist others who are interested in
keyboarding at the elementary school level.

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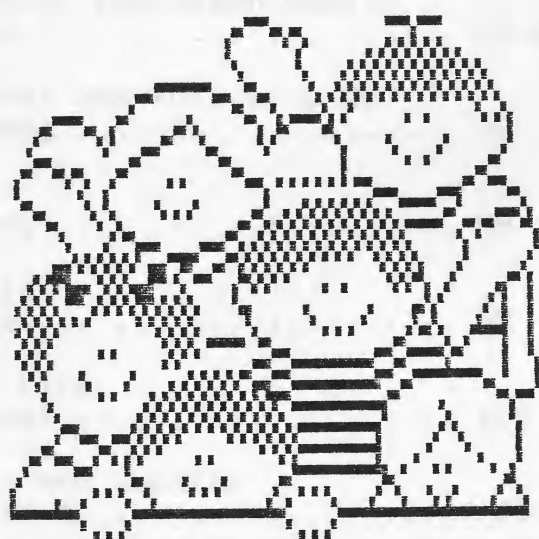   Elementary, My Dear Teacher? The Computer
     Teacher.

APPENDIX A

KEYBOARD PILOT

SECOND GRADE EASTVIEW

Table of Contents

A Day as a Pencil

There are these kids and they are mean. Every day
they are here and they have to use me. They chew
on me and drop me on the floor. I like it when
they are at lunch. I can rest a lot. I like it
when it is recess too. One day some kid threw up
and I rolled in it. I ended up in the trash can.
Some kid found me and took me to my owner. He
washed me and put me in the school box. It was nice
and cozy. Then the kid got an A on a paper and was
s-o-o-o-o-o happy that he jumped up and down. He
put teeth marks in me. He got the hicups every 5
minutes and hurt his leg and arm. He told Mrs.
Diemer. She sent him up to the clinic. They sent
him home and he took me home too. He layed me on
his pillow and it was nice and cozy. When he went
to bed he slept on me but it did not hurt.

By Christi

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Hello Cat You Need a Hat

Oh look. Just look! Your head is bare. I'll give

you some hats.

                    typed by Zachary

                    The Three Detectives

      The Mystery of the Monster of the Night

      MMM

First....Cory

Second...David

Research..Doug

Zzz. Oh no! He's going to get me. Oh,it was just a

dream said Cory. I'll look it up in the dream book

because it was not a regular dream. Aaa here it is.

A monster of the night does not mean anything. I

don't believe that I'm going investigate. I'm going

to get Doug and David. Ring ring. "Hello." "Hi

Doug. Is that you?" "Yes,it's me." Well come over

to my house quick! Ok,I'll be right over.Click went

the phone. Now I think I'll call David.

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Ring,ring."Hello." "Hello,David." "Hi Cory." "David
come to my house quick!" "Ok." Click went the
phone again. Knock knock. Hi Doug. Hi Cory said
Doug. "Come on in,"said Cory. Ok, How are you
doing? said Doug. Terrible! How about you.
Terrific! I just burnt my hand on the stove and
I.....Ok ok you win. Now lets get to work said
Cory. No we better wait for David. Knock knock. Hi
David come on in. Now that we're all here let's get
to work. I had a dream last night. You brought us
all the way down here for that. No there is more
and than I woke up and I looked it up in the dream
book and it said it did not anything. But I don't
believe that and it was the Monster of the night so
I'm going to investigate. Ok you win but how? said
Doug. I thought we could ask everybody in town and
ask if they had the same dream and what happened.
Yes but won't that take long. Yes but it's worth
it. Yes your right. We could rent a car. Yes we
could said Cory. Ya, plus lose some money said
David. Yes, your right Doug and I were getting
carried away. You now my best friend Brandon I
think he has a car. We could borrow it for a little
while. Oh, I forgot he's on a trip. Great now what?

But he didn't take it so we could call him. Nine
hours later. Boy am I tired said Cory. Doug and I
are too. I guess it doesn't mean anything. Yep,
your right, but it was worth trying to find out.
Ya, I guess your right. Well, see you tomorrow. See
ya.

by Cory

Secret of the Green Goblin
"Mom," said Bob. "Jupiter Pete and I are going to
the club." "O.K.," said his Mother. So he went to
get his friends. When they got to the club there in
front of them was a green goblin. They ran as fast
as they could. They were home at last! They called
Mr. Hitchcock on the telephone. "Hello, Mr.
Hitchcock said Pete" There is a green goblin in
the well." said Mr.Hitchcock. If there's a goblin
in your club investigate it." "O.K.," said Pete but
when they got there the goblin wasn't there Pete
said but he was here a minute ago but he isn't now
there he is get him but he is to fast and Bob side
I see him he tried to grab him but he was to fast.
and he tried again and again. but he couldn't so

Pete tried to but he can't get him either. then Bob
tried but he either Then Jupiter tried but he
can't either. So they went to the gun shop and each
of them got a M'16. When they got there the goblin
was in front of them. Pete, Bob, and Jupiter pulled
out their guns but before they could shoot he
pulled off his mask. Then they called Mr.
Kithcock. He said, "What is it Pete." "Is it about
the goblin?" "Yes, I think we solved the case. Well
boys, just come back to my office now and bring
your backpacks then get your guns. There he is get
him. " I got him," said Pete. They called the
police. "Good job boys." "Thank you," said Pete.
"We need a vacation." "I know," said Bob. "Lets
go."

  by Jason

The Dog That Was Following Me

One day I was walking to school. A big dog was following me. When school was over, I took him to the pound. He was a collie. He was brown and he had white paws. I found a dog exactly like him. I bought him for 50 dollars. When I got home from the pet store,my mom wasn't home. But their was a note on the table. I didn't read it. I got some money and I went to the store. I took my dog with me. I got him a collar and a leash. When we got outside, I put it on my dog. We ran and ran until we found my Mom. We saw my mom's car but we didn't see my mom anywhere in sight. We went back home and my mom was there. I asked my my question. "Where were you?" She said, " At a restaurant." I said, "What one, Hilltop?" I sighed, " Nothing ever exciting ever happens around here anyway. "The next morning we went to Cedar Point. We took my dog with us. I rode the bluestreak. My dog was barking loud my mom was laughing and so was it fun. Mom, this is the best day of my life. My mom gave me a big hug.

by Lindsey

Earth

Earth is a planet that we live on. I like earth a
lot but I wish I could see space. I wish you could
see it too. I think that space is beautiful.
Don't you think? Space is dark I know that. Do
you know that? I like earth don't you?

by Cristy

The Magician

There was a great magican and he did great things.
He asked me if I wanted to be his apprentice and
then we had a magic show.

by Chris

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My Entire Life

My entire life is boring and I have nobody to play with. I like Tony Bailey. My best friend is Chris Sellards. I like Mrs.Diemer and Beth and Jamie Utt and Tim G. and Tim L. and Tim C. and Tiffany and Dee Dee and Shannon and Joe and Cory and Clifford and Heather too.

by Michael

Pete, Bob, and Jupiter
In The Secret of Terror Castle

Pete and Bob and Jupiter had nothing to do. Right then the telephone rang. It was Alfred Hitchcock. He wanted to see if they would go to terror castle and investigate. They said yes. The next day they started to investigate. They saw all kinds of things. Then they came back. Bob, asked Pete, Next time lets bring a taperecorder and let's bring a flashlight. Next morning they went again they saw a phantom . They ran as fast as they could. They went to sleep. The next morning they went again. Other people tried to spend the night

but the phantom ate them. Then the three
investigators went back to the castle and went into
the darkest room upstairs. And a painting moved.
But they went on. They saw something it was the
phantom they ran as fast as they could because they
were nervious. They fell down in a secret
paintings. The phantom got mad. Then they
couldn't find a way out. The phantom came into
that room and almost got Pete. They went on and
they ran into more and more monster. And the
farther they went things got spookier and spookier.
The bigger things got the spookier it got. They
saw the phantom again that time he went for Bob.

by Justin

I Like Being a Pencil

Hello, I'm a pencil would you want to be a pencil?
It is fun being a pencil. My owner's name is Dee
Dee She keeps me nice and clean but she doesn't put
me in water. I like writing when my owner make's
me write. Boy that's fun. Remember I'm a pencil.
The end.

by Dee Dee

A Day As Pencil

On Thursday Shannon was on the floor. Tim picked
her up and gave her to Mrs.Diemer and Mrs.Diemer
put her in the desk. Lindsey was in the desk all
day but she took Lindsey out and wrote with
Lindsey. She wrote fast with Lindsey. She put
Lindsey in the desk and that's were Lindsey
Stayed.

by Tiffany

The Snake

One summer I went to the park. I saw a rattle
snake. It terrified me and I ran. It was silly that
I ran to mom and dad. They said it was silly that I
ran to them. I said I wanted to see it . My mom
said they would catch it in a pot. My dad said to
Candi my sister can you catch a snake? Candi said
"Yes". Dad said "Good" "Now can you catch a snake
in a the pot?" Candi said "Yes Dad." Dad said "Good
Candi." "Now can you catch a snake in the park?"
"Yes!" "Good, Candi," said dad. "Now can you catch
a snake in a pot in the park today?" "Yes,dad."She

said "Good." Dad said. "Now go and catch the rattle
snake today."And that day the snake was in a pot. I
saw it. It was pretty very pretty. I was glad. My
mom and dad and sister were all glad that I was
glad. I wanted to keep it. They said OK! I called
him Joe.

by Beth

Jeremy's

One day I went to Jeremy's house. We had fun. I
got to ride Jeremy's go-cart I rode it fast. I road
it 40 miles a hour. When I got to Jeremy the tank
ran out of gas. We play baseball and Jeremy slipped
in the mud and we went inside. We went inside to
play.

Tony

I am a Pencil

Hello, I am a pencil. Are you one ? I like it being
a pencil. It is fun except when I get sharpened. I
have to get sharpened but I don't like it at all.
It makes me sharper but I don't like it. I love

love love it when the kids at school leave. It is
fun as I told you at the beginning. We have all
night to play and rest from all that writing we do
in the day time. That's about all I can tell you so
good by. I will see you tomorrow. I need to get
some rest now so good h-a-a-a night.

<div align="center">by Daine</div>

Dinosaurs

Dinosaurs lived 1,000,000 years ago and they died
and they left footprints in the sand. They left
fossils were they lived. And they lived years ago
when people weren't alive then. Dinosaurs lived in
caves and other stuff. They had sharp tails. They
were mean and ugly and brown. They had sharp teeth
because they were meat eaters. One's name was
Tyrannosaurs Rex. Others went into the water and
went under water looking for some meat. This
Dinosaur was a lizard. It was about 20 feet long
and eighteen inches. Tyrannosaurus Rex was the
king of Dinosaurs. And when they where dead they
were laying on the bottom of the sea. Scientists
found the fossils in the water. A Dinosaurs was
still alive in the water. And then someone killed
it.

<div align="center">by Tim Lucas</div>

But this Saturday they had no money. Maybe if we look around we'll find some.

typed by Tim

The Mystery of the Green Glob

Pete, Bob, and Jupiter were eating breakfast, when suddenly the phone rang. Pete answered it. It was Alfred Hitchcock. He wanted to know if they could go to Terror Castle and solve a mystery. Pete hung up the phone. After breakfast, the boys rushed into the car and drove off. When they got to Terror Castle they got out of the car, Bob asked if they had everything. Pete said yes. Well let's go. The boys went into Terror Castle. Pete said I forgot something. I'll go get it. The two boys got their flashlight and they followed a door. Jupiter turned the door knob. suddenly they fell down into a pit. Lucky they put checkmarks on the wall or Pete would not be able to find them. When Pete got there, he saw the checkmarks he followed the checkmarks.

Finally they stopped. Pete knew there was a trap.
He found a mirror. Pete pushed against it. It
turned very slow. On the otherside there were
steps. He started down the steps. After walking a
long way down he finally got to the bottom of the
stairs. There were two hallways. Pete went through
the left hallway. It was dark. Soon something green
came out. It glowed.

<center>by Tim</center>

<center>A Day as a Pencil</center>

One day I was in a school box. Somebody opened the
school box and he got me and started to write with
me. It did not hurt. It only hurts when he sharpens
me and when he taps me on his desk. Well he's
pretty nice. Well at last I have my friend He is an
eraser. He helps me erase and he even drinks coke
with me when we watch T.V. on a erasers stomach.
We sleep in a crayon box. The next day my owner
came back. I went to get my friend. I was to
late. I tripped and my owner got me and put me in
his desk. I went to the school box and told the
eraser. We got out of the school box. My friend
said get on my back. I got on his back. He jumped

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and he hit the door. We went under the crack and
we could not get out the door. We waited. After
school, we got out the door and went running down
the street. We tried to find a   home. Then my
friend said lets go back I said ok so we went
back to the school. Then we got in the school box
and we played a game of checkers We got a black
and red crayon We got the scissors and then we cut
the bottom of the crayons. we used box for a
checker board then we played the game. then we
watched   wheel of fortune on the T.V. the best
is we can run any were we can even play in the Gym
any time we want plus when were hungry we just go
in the cafeteria we can even drink as many milk
cartons you could even dream of. some times we
get the teachers two cups on the desk and we get
a little rubber ball and then we played basket ball
we can even make swish. we some times we play
hide-and-go-seek we can hide any where. and after
we play checkers then we went to bed.

<div align="center">by Douglas</div>

I Like Being a Pencil

I like being a pencil it's fun. Your manager
writes with you. I like it. It's fun. I live in
a school box. My bed is made of crayons. My friend
is a eraser. He likes me very much. My mom and
dad are pencils too. We live in the school box
with my Grandpa and my cousins.

by Joe

Snow

I like snow because snow is fun to play in. You can
do a lots of things.

by Crystal

A Day As A Pencil

My owner can't find me and I'm up on his desk. It
must be a mess because he can't find me. It looks
like a jungle on it. His teacher is going to make
him clean his desk. And then he will find me. He
found me. He was biting me and biting me. It hurt
me, ouch! I said I wish he could not find me. It's
still a jungle in his desk and when morning came he
could not find me. I was on his teachers desk. My
owners name is Jeremy. I got put in water and in
glue also. It wasn't fun. I had to get washed and
I got soaked. When I got soaked I got broke. When
I got broke I was dead. So he had to get another
pencil. He got a pencil just like me. I look like
it too. He said to me, I like you, but I broke
you. I want to give this to you. In pencil
heaven, I got pretty dresses they have ruffles on
them. I said thank you to my owner. Good night.

by Heather

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Mayflower

People were on the Mayflower.Some people get sick
on the Mayflower . They were on the Mayflower for
13 months. One day a man called,   Shore up ahead
but it was three days before they got there.
Finally in three days, they got there. When they
got there they got a big surprise.

Christie

Lindsey and the Pencil

Lindsey writes with a pencil and sometimes the
pencil breaks. Lindsey sharpens the pencil back up
so the pencil will be sharp again. Lindsey bites on
the pencil but Lindsey still writes with the
pencil. Lindsey writes stories and here is a story
right now that Lindsey is writing. Lindsey is
writing the story on Tuesday the title is A Day as
a Pencil. Shannon is breaking because someone is
not pressing light. Lindsey is biting on the
pencil. Lindsey throws the pencil away because
Lindsey doesn't like the pencil. Lindsey got a new.
Lindsey does not want to use the old pencil because

Lindsey does all those thing to the pencil. Lindsey breaks the pencil. Lindsey bites on the pencil. lindsey breaks the lead. Lindsey throws the pencil away. Lindsey does not treat the pencil right.

by Shannon